



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/916,527	07/27/2001	Mika Shiiki	S004-4335	9252

7590 03/25/2003
ADAMS & WILKS
31st Floor
50 Broadway
New York, NY 10004

EXAMINER

ROSE, KIESHA L

ART UNIT PAPER NUMBER

2822

DATE MAILED: 03/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,527

Applicant(s)

SHIIKI ET AL.

Examiner

Kiesha L. Rose

Art Unit

2822

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 10-20, 24-31, 34 and 36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 January 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to the amendment filed 15 October 2002.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the second insulating film overlying the thin film resistors where the second conductors are formed on the second insulating film must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 2 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 2 discloses a second

insulating film overlying the thin film resistors, where the second conductors are formed on the second insulating film.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-4, 10-15, 17-20, 24-31 and 34-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over MacElwee (U.S. Patent 5,296,726).

MacElwee discloses a high value resistive load (Figs. 1 and 2) that contains a plurality of P-type polysilicon thin film resistors (50) having two end portions (54) each having a high impurity concentrations, a first silicon oxide insulating layer (60) overlaying the thin film resistors, a plurality of first conductors (66) connected to the end portions of the thin film resistors, a plurality of second conductor (64) formed of polysilicon or any conductive material is formed through the first insulating layer and is connected to the first conductors where the first conductor forms a gate electrode of an MOS type transistor and the film thickness of the thin film resistor is thinner than the gate electrode, the thin film resistors and first conductors are fixed together by a metal wiring layer (66) and the thin film resistors comprise a low resistance region (54) which is connected to the metal wiring and a high resistance region (58) where the upper surface of the low and high resistance region are formed on a flat surface. In regards to

Art Unit: 2822

Claims 10,11,20,24,26 and 31, MacElwee discloses the claimed invention except for thickness of the resistors and resistance value. It would have been obvious to one having ordinary skill in the art at the time the invention was made to formed specific thickness and resistance values, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233 (1955).

MacElwee discloses all of the limitations except for the first and second conductors and the thin film resistors to have the same potential. Applying the same voltage to the conductors and the thin film resistors will make them have the same potential.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the high value resistive load of MacElwee by incorporating the same voltage to the conductors and the thin film resistors to supply them with the same potential. MacElwee discloses all of the limitations except for the impurity introduced in the polysilicon were boron or BF_2 . Whereas Yu discloses a semiconductor device (Fig. 1a-1d) that contains a polysilicon layer implanted with boron or BF_2 . BF_2 is implanted in the polysilicon layer to reduce effective boron energy and significant amorphization of the surface silicon. (Column 1, lines 44-54) Since MacElwee and Yu are both from the same field of endeavor, semiconductor devices, the purpose disclosed by Yu would have been recognized in the pertinent art of MacElwee. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the high value resistive load of MacElwee by

Art Unit: 2822

incorporating boron or BF₂ in the polysilicon layer to reduce effective boron energy and significant amorphization of the surface silicon as taught by Yu.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over MacElwee as applied to claim 6 above, and further in view of Onishi (U.S. Patent 5,708,284).

MacElwee discloses all of the limitations except for the second conductor to contain a lamination layer comprising a barrier metal and a silicide film. Whereas Onishi discloses a memory device that contains a conductor layer (5a) that is formed of a lamination layer containing a barrier metal and a silicide layer. The lamination layer is formed to function as a gate electrode for a transistor. Since MacElwee and Onishi are both from the same field of endeavor, semiconductor device, the purpose disclosed by Onishi would have been recognized in the pertinent art of MacElwee. Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the high value resistive load of MacElwee by incorporating a lamination layer containing a barrier layer and silicide layer to function as a gate electrode of a transistor as taught by Onishi.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claim 1 is rejected under the judicially created doctrine of double patenting over claim 1 of U. S. Patent No. 6,369,409 since the claims, if allowed, would improperly extend the "right to exclude" already granted in the patent.

The subject matter claimed in the instant application is fully disclosed in the patent and is covered by the patent since the patent and the application are claiming common subject matter, as follows:

Claim 1 discloses a plurality of thin film resistors on a first conductor through a first insulating layer where the first conductor and thin film resistor have the same potential.

Furthermore, there is no apparent reason why applicant was prevented from presenting claims corresponding to those of the instant application during prosecution of the application which matured into a patent. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Response to Arguments

Applicant's arguments with respect to claims 1-4, 10-20, 24-31 and 34-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiesha L. Rose whose telephone number is 703-605-4212. The examiner can normally be reached on M-F 8:30-6:00 off 1st Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amir Zarabian can be reached on 703-308-4905. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Art Unit: 2822

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


KLR
March 21, 2003


AMIR ZAPABIAN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800